AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (currently amended) A method to determine ~~the optimal~~ parameters of a radiography acquisition comprising:

a. a first test image of an object is acquired under known setting conditions for a radiography installation;

b. a mean thickness of the object is measured, for these known setting conditions, from the first test image test;

c. the ~~optimal~~ parameters of acquisition are determined from the mean thickness; and

d. a measure is made of the mean thickness from the first test image, where pixels that ~~do not~~ represent ~~significant parts~~ defined regions of the object are ~~excluded~~ eliminated from the first test image.

2. (currently amended) The method according to claim 1 wherein the radiology installation is set as a function of the ~~optimal~~ parameters wherein the high voltage applied between an anode and a cathode of an X-ray tube of the installation is set, the setting being done as a function of the mean thickness of the object examined.

3. (original) The method according to claim 1 wherein in order to exclude the pixels, those pixels for which one characteristic in the image is located beyond a threshold are eliminated from the first image, the threshold corresponding to a borderline thickness of interest of the object; and below the borderline thickness, it is assumed that the image is of no interest and mean thickness is computed from a reduced histogram of pixels in which reduced histogram, the eliminated pixels are not present.

4. (original) The method according to claim 2 wherein in order to exclude the pixels, those pixels for which one characteristic in the image is located beyond a threshold are eliminated from the first image, the threshold corresponding to a borderline thickness of interest of the object; and below the borderline thickness, it is assumed that the image is of no interest and mean thickness is computed from a reduced histogram of pixels in which reduced histogram, the eliminated pixels are not present.

5. (currently amended) The method according to claim 3 wherein the mean thickness value taken is the mean of [[the]] equivalent thicknesses corresponding to the pixels of the population of pixels of the reduced histogram, the equivalent thicknesses being tissue thicknesses of the object given by their equivalents in thickness of a plastic material.

6. (currently amended) The method according to claim 4 wherein the mean thickness value taken is the mean of [[the]] equivalent thicknesses corresponding to the pixels of the population of pixels of the reduced histogram, the equivalent thicknesses being tissue thicknesses of the object given by their equivalents in thickness of a plastic material.

7. (original) The method according to claim 5 wherein:

a. a given number of pixels is subtracted from the population of pixels of the reduced histogram; and

b. the subtracted pixels are those whose equivalent thicknesses are the lowest from the threshold.

8. (original) The method according to claim 6 wherein:

a. a given number of pixels is subtracted from the population of pixels of the reduced histogram; and

b. the subtracted pixels are those whose equivalent thicknesses are the lowest from the threshold.

9. (original) The method according to claim 3 wherein for the setting of the installation, a pixel threshold is found for the test image by reverse analysis from the parameters for setting the installation, the pixel threshold being, for example, a gray level threshold or a dose threshold which corresponds to a thickness beyond which the tissue regions are deemed to be of no interest.

10. (original) The method according to claim 5 wherein for the setting of the installation, a pixel threshold is found for the test image by reverse analysis from the parameters for setting the installation, the pixel threshold being, for example, a gray level threshold or a dose threshold which corresponds to a thickness beyond which the tissue regions are deemed to be of no interest.

11. (original) The method according to claim 6 wherein for the setting of the installation, a pixel threshold is found for the test image by reverse analysis from the parameters for setting the installation, the pixel threshold being, for example, a gray level threshold or a dose threshold which corresponds to a thickness beyond which the tissue regions are deemed to be of no interest.

12. (original) The method according to claim 7 wherein for the setting of the installation, a pixel threshold is found for the test image by reverse analysis from the parameters for setting the installation, the pixel threshold being, for example, a gray level threshold or a dose threshold which corresponds to a thickness beyond which the tissue regions are deemed to be of no interest.

13. (original) The method according to claim 8 wherein for the setting of the installation, a pixel threshold is found for the test image by reverse analysis from the parameters for setting the installation, the pixel threshold being, for example, a gray level threshold or a dose threshold which corresponds to a thickness beyond which the tissue regions are deemed to be of no interest.

14. (currently amended) The method according to claim 9 wherein before the reverse analysis, the thickness is corrected as a function of an arbitrary thickness, a geometry of acquisition of the image and as a function of a Compton scattering phenomenon that results therefrom according to the following equations:

$$\boxed{AirGap = SID - IsoDis\tan ce\_\frac{EPTthreshold}{2}}$$

and

$$\boxed{ScatterComp = \left[\begin{array}{l} sa \\ +\left(sb \times EPTthreshold\right) \\ +\left(sc \times \sqrt{SurfaceFdbk} \times 10\right) \\ +\left(sd \times AirGap\right) \\ +\left(se \times kVp\_actual\right) \\ +\left(sf \times AirGap^{2}\right) \\ +\left(sg \times EPTthreshold \times \sqrt{SurfaceFdbk} \times 10\right) \\ +\left(sh \times EPTthreshold \times AirgGap\right) \\ +\left(si \times EPTthreshold \times kVp\_actual\right) \\ +\left(sj \times \sqrt{SurfaceFdbk} \times 10 \times AirGap\right) \\ +\left(sk \times \sqrt{SurfaceFdbk} \times 10 \times kVp\_actual\right) \\ +\left(sl \times AirGap \times kVp\_actual\right) \end{array}\right]}$$

wherein:

SID represents a distance from an x-ray source to a detector;

IsoDistance represents a distance from the x-ray source to a lower edge of the object;

EPT Threshold represents an equivalent thickness below which no tissue of interest is present, the equivalent thickness being tissue thickness of the object given by an equivalent in thickness of a plastic material;

SurfaceFdbk represents a surface area of a field of view

KVp_actual represents a voltage with which the x-ray source is energized at a time of test image acquisition; and

Sa through Sl represent coefficients obtained by a regression analysis of measurement of phantoms of known radiological densities.

15. · (currently amended) The method according to claim 10 wherein before the reverse analysis, the thickness is corrected as a function of an arbitrary thickness, a geometry of acquisition of the image and as a function of a Compton scattering phenomenon that results therefrom according to the following equations:

$$\boxed{AirGap = SID - IsoDis\tan ce\_\frac{EPTthreshold}{2}}$$

and

$$\boxed{ScatterComp = \left[\begin{array}{l} sa \\ +(sb \times EPTthreshold) \\ +\left(sc \times \sqrt{SurfaceFdbk} \times 10\right) \\ +(sd \times AirGap) \\ +(se \times kVp\_actual) \\ +\left(sf \times AirGap^{2}\right) \\ +\left(sg \times EPTthreshold \times \sqrt{SurfaceFdbk} \times 10\right) \\ +(sh \times EPTthreshold \times AirgGap) \\ +(si \times EPTthreshold \times kVp\_actual) \\ +\left(sj \times \sqrt{SurfaceFdbk} \times 10 \times AirGap\right) \\ +\left(sk \times \sqrt{SurfaceFdbk} \times 10 \times kVp\_actual\right) \\ +(sl \times AirGap \times kVp\_actual) \end{array}\right]}$$

wherein:

SID represents a distance from an x-ray source to a detector;

IsoDistance represents a distance from the x-ray source to a lower edge of the object;

EPT Threshold represents an equivalent thickness below which no tissue of interest is present;

SurfaceFdbk represents a surface area of a field of view

KVp_actual represents a voltage with which the x-ray source is energized at a time of test image acquisition; and

Sa through Sl represent coefficients obtained by a regression analysis of measurement of phantoms of known radiological densities.

16. (currently amended) The method according to claim 11 wherein before the reverse analysis, the thickness is corrected as a function of an arbitrary thickness, a geometry of acquisition of the image and as a function of a Compton scattering phenomenon that results therefrom according to the following equations:

$$\boxed{AirGap = SID - IsoDis\tan ce\_\frac{EPTthreshold}{2}}$$

and

$$\boxed{ScatterComp = \begin{bmatrix} sa \\ +(sb \times EPTthreshold) \\ +\left(sc \times \sqrt{SurfaceFdbk} \times 10\right) \\ +(sd \times AirGap) \\ +(se \times kVp\_actual) \\ +\left(sf \times AirGap^{2}\right) \\ +\left(sg \times EPTthreshold \times \sqrt{SurfaceFdbk} \times 10\right) \\ +(sh \times EPTthreshold \times AirgGap) \\ +(si \times EPTthreshold \times kVp\_actual) \\ +\left(sj \times \sqrt{SurfaceFdbk} \times 10 \times AirGap\right) \\ +\left(sk \times \sqrt{SurfaceFdbk} \times 10 \times kVp\_actual\right) \\ +(sl \times AirGap \times kVp\_actual) \end{bmatrix}}$$

wherein:

SID represents a distance from an x-ray source to a detector;

IsoDistance represents a distance from the x-ray source to a lower edge of the object;

EPT Threshold represents an equivalent thickness below which no tissue of interest is present;

SurfaceFdbk represents a surface area of a field of view

KVp_actual represents a voltage with which the x-ray source is energized at a time of test image acquisition; and

Sa through Sl represent coefficients obtained by a regression analysis of measurement of phantoms of known radiological densities.

17. (currently amended) The method according to claim 12 wherein before the reverse analysis, the thickness is corrected as a function of an arbitrary thickness, a geometry of acquisition of the image and as a function of a Compton scattering phenomenon that results therefrom according to the following equations:

$$\boxed{AirGap = SID - IsoDis\tan ce\_\frac{EPTthreshold}{2}}$$

and

$$\boxed{ScatterComp = \left[\begin{array}{l} sa \\ +(sb \times EPTthreshold) \\ +\left(sc \times \sqrt{SurfaceFdbk} \times 10\right) \\ +(sd \times AirGap) \\ +(se \times kVp\_actual) \\ +\left(sf \times AirGap^{2}\right) \\ +\left(sg \times EPTthreshold \times \sqrt{SurfaceFdbk} \times 10\right) \\ +(sh \times EPTthreshold \times AirgGap) \\ +(si \times EPTthreshold \times kVp\_actual) \\ +\left(sj \times \sqrt{SurfaceFdbk} \times 10 \times AirGap\right) \\ +\left(sk \times \sqrt{SurfaceFdbk} \times 10 \times kVp\_actual\right) \\ +(sl \times AirGap \times kVp\_actual) \end{array}\right]}$$

wherein:

SID represents a distance from an x-ray source to a detector;

IsoDistance represents a distance from the x-ray source to a lower edge of the object;

EPT Threshold represents an equivalent thickness below which no tissue of interest is present;

SurfaceFdbk represents a surface area of a field of view

KVp actual represents a voltage with which the x-ray source is energized at a time of test image acquisition; and

Sa through Sl represent coefficients obtained by a regression analysis of measurement of phantoms of known radiological densities.

18. (currently amended) The method according to claim 13 wherein before the reverse analysis, the thickness is corrected as a function of an arbitrary thickness, a geometry of acquisition of the image and as a function of a Compton scattering phenomenon that results therefrom according to the following equations:

$$\boxed{AirGap = SID - IsoDis\tan ce\_\frac{EPTthreshold}{2}}$$

and

$$\boxed{ScatterComp = \begin{bmatrix} sa \\ +(sb \times EPTthreshold) \\ +\left(sc \times \sqrt{SurfaceFdbk} \times 10\right) \\ +(sd \times AirGap) \\ +(se \times kVp\_actual) \\ +\left(sf \times AirGap^2\right) \\ +\left(sg \times EPTthreshold \times \sqrt{SurfaceFdbk} \times 10\right) \\ +(sh \times EPTthreshold \times AirgGap) \\ +(si \times EPTthreshold \times kVp\_actual) \\ +\left(sj \times \sqrt{SurfaceFdbk} \times 10 \times AirGap\right) \\ +\left(sk \times \sqrt{SurfaceFdbk} \times 10 \times kVp\_actual\right) \\ +(sl \times AirGap \times kVp\_actual) \end{bmatrix}}$$

wherein:

SID represents a distance from an x-ray source to a detector;

IsoDistance represents a distance from the x-ray source to a lower edge of the object;

EPT Threshold represents an equivalent thickness below which no tissue of interest is present;

SurfaceFdbk represents a surface area of a field of view

KVp_actual represents a voltage with which the x-ray source is energized at a time of test image acquisition; and

Sa through Sl represent coefficients obtained by a regression analysis of measurement of phantoms of known radiological densities.

19. (currently amended) The method according to claim 9 wherein for the reverse analysis the result of the following equation is computed:

$$\boxed{SFBthreshold = \exp(b12 + W12 \cdot \Phi(W11 \cdot In + b11))}$$

wherein In represent the known conditions of setting of the installation, Φ represents a Tansig function, the values bij and Wij are respectively vectors and matrices, the values bij and Wij by learning, especially by minimization of an error in the computation of the equation for a set of thresholds, SFB threshold, and for a set of varied conditions of setting of the installation.

20. (currently amended) The method according to claim 10 wherein for the reverse analysis the result of the following equation is computed:

$$\boxed{SFBthreshold = \exp(b12 + W12 \cdot \Phi(W11 \cdot In + b11))}$$

wherein In represent the known conditions of setting of the installation, Φ represents a Tansig function, the values bij and Wij are respectively vectors and matrices, the values bij and Wij by learning, especially by minimization of an error in the computation of the equation for a set of thresholds, SFB threshold, and for a set of varied conditions of setting of the installation.

21. (currently amended) The method according to claim 11 wherein for the reverse analysis the result of the following equation is computed:

$$\boxed{SFBthreshold = \exp(b12 + W12 \cdot \Phi(W11 \cdot In + b11))}$$

wherein In represent the known conditions of setting of the installation, Φ represents a Tansig function, the values bij and Wij are respectively vectors and matrices, the values bij and Wij by learning, especially by minimization of an error in the computation of the equation for a set of thresholds, SFB threshold, and for a set of varied conditions of setting of the installation.

22. (currently amended) The method according to claim 12 wherein for the reverse analysis the result of the following equation is computed:

$$\boxed{SFBthreshold = \exp(b12 + W12 \cdot \Phi(W11 \cdot In + b11))}$$

wherein In represent the known conditions of setting of the installation, Φ represents a Tansig function, the values bij and Wij are respectively vectors and matrices, the values bij and Wij by learning, especially by minimization of an error in the computation of the equation for a set of thresholds, SFB threshold, and for a set of varied conditions of setting of the installation.

23. (currently amended) The method according to claim 13 wherein for the reverse analysis the result of the following equation is computed:

$$\boxed{SFBthreshold = \exp(b12 + W12 \cdot \Phi(W11 \cdot In + b11))}$$

wherein In represent the known conditions of setting of the installation, Φ represents a Tansig function, the values bij and Wij are respectively vectors and matrices, the values